

Appl. No. 10/772,885
Amdt. dated November 28, 2005
Reply to Office Action of August 25, 2005

Remarks

The present amendment responds to the Official Action mailed August 25, 2005. A petition requesting a one month extension of the time to respond and authorization to charge Deposit Account No. 50-1058 the fee for this extension accompany this amendment. The Official Action objected to the disclosure as missing a serial number. Claim 16 was objected to as informal. Claim 15 was rejected under 35 U.S.C. 102(e) based on Ng et al. U.S. Patent No. 6,529,585. Claims 1-6 and 8 were rejected under 35 U.S.C. 102(a) over Furman et al. U.S. Patent No. 6,049,594 (Furman) in view of Steinbiss et al. U.S. Patent No. 6,823,307 (Steinbiss). Claim 7 was rejected under 35 U.S.C. 103(a) over Furman in view of Steinbiss further in view of Gadd et al. US2005/0033528 (Gadd). Claims 9-11 and 14 were rejected under 35 U.S.C. 103(a) over Furman in view of Steinbiss and further in view of Levin et al. US2003/0149566 (Levin). Claims 12 and 13 were rejected under 35 U.S.C. 103(a) over Furman in view of Steinbiss and Levin further in view of Stublely US2005/015211 (Stublely). Claim 16 was rejected under 35 U.S.C. 103(a) over Ng in view of Steinbiss. Claims 17-19 were rejected under 35 U.S.C. 103(a) over Ng and Steinbiss further in view of Furman. These grounds of rejection are addressed below. Claims 1, 8, and 15-17 have been amended to be more clear and distinct. Claims 1-19 are presently pending.

Objection to the Disclosure

The Serial No. missing from the paragraph beginning at page 2, line 18 has been added by amendment.

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Informality Objection to Claim 16.

"And" has been corrected to --an-- as suggested by the Examiner who is thanked for his careful reading of the claims.

The Art Rejections

As addressed in greater detail below, the relied upon art does not support the Official Action's reading of it and the rejections based thereupon should be reconsidered and withdrawn. Further, the Applicant does not acquiesce in the analysis of the relied upon art made by the Official Action and respectfully traverses the Official Action's analysis underlying its rejections.

Rejections of Claims 1-14

Claims 1 and 15 have now been similarly amended. Claim 1 has been amended to further define the voice dialing module as "employing voice recognition to analyze the voice input, examining the directory to identify candidates for matches from the directory matching the voice input, constructing a list of recognition results that are candidates for matches to the voice input with entries on the list ranked by confidence, and comparing the list of recognition results with the called party cache to determine if entries in the list appear in the called party cache". The voice dialing module assigns "an increased likelihood of matching to a list entry appearing in the called party cache." As addressed in greater detail below, Furman and Ng do nothing of the sort. Steinbiss while describing a language model employing a cache provides no basis for amending Furman in the manner suggested by the Official Action or to make obvious the claims as presently amended.

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The rejections of claims 1-14 are based upon the application of Furman and Steinbiss (claims 1-6 and 8) or these two items in combination with a further item or items (claims 7 and 9-14). Furman is entitled "Automatic Vocabulary Generation for Telecommunications Network-Based Voice-Dialing". As described at col. 5, lines 13-45, a dialer database for a given network customer is generated using a customer ID number, such as the customer's telephone number.

Furman's database processor 5 uses the customer ID number to index the customer billing record database 15 to determine the telephone numbers most frequently dialed by the customer over a period of time, such as the last six months. Database 15 is noted as being conventional, such as the type normally used for billing purposes. In the described embodiment, the processor identifies the 20 most frequently called numbers by the given customer. A reverse telephone directory is then scanned to determine the name associated with each number. Furman does not examine "the directory to identify candidates for matches from the directory matching the voice input" as presently claimed. To the contrary, Furman looks at the billing directory, rather than a dialing directory, simply to generate a list of likely called numbers, such as the 20 most frequently called numbers. It is these numbers and only these numbers that Furman can recognize using its voice dialing approach. The present approach can advantageously try to recognize all the parties a user may call using a directory, such as a dialing directory.

As further described by Furman at col. 5, line 46-col. 6, line 22, text strings for names and corresponding numbers are converted or translated to a sequence of phonemes by a speech training processor 10. Phone numbers and associated phonemes are stored in a customer repertory database 25 and used to recognize spoken names and dial associated numbers. For

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example, 20 scores are generated for the 20 phonemic translations and the phonemic translation with the highest score is identified. Col. 7, lines 17-36. Simply identifying and calling the highest score is not the approach of the present claims in which "a list of recognition results . . . ranked by confidence" is generated and then compared with the called party cache after which an increased likelihood of matching is assigned to a list entry appearing in the called party cache.

In the embodiment of Furman's Fig. 6, a script database is used to conduct an automated interview of the customer with the goal of eliciting pronunciations from the customer. Col. 9, lines 1-67. In the embodiment of Fig. 8, the customer is asked to repeat multiple times the names he would like to use to allow HMMs of those names to be built. Col. 9, line 62-col. 10, line 9.

The Official Action correctly admits at page 5 that Furman "fails to disclose the voice dialing module being operative to assign an increased likelihood of matching to a directory entry appearing in the called party cache." However, the Official Action relies upon Steinbiss suggesting that it "teaches the voice dialing module being operative to assign an increased likelihood of matching to a directory entry appearing in the called party cache" citing Steinbiss col. 6, lines 11-17. As noted above, there are several other distinctions between Furman and the presently amended claims. It is further noted that it is not a directory entry which is assigned an increased likelihood, but rather an entry from the list of recognition results which was derived from an examination of the directory.

Steinbiss addresses a small vocabulary pattern recognition system 100 for recognizing sequences of words, such as digit strings or command sequences. Col. 3, line 66-col. 4, line 2. A statistical language mode 150 is employed to provide a statistical probability of a sequence of M

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words. This probability depends on a frequency of occurrence of the sequence in a cache. Col. 5, lines 55-59. For voice dialing of telephone numbers, it is preferred that the system also allows frequently used word sequences, such as telephone numbers, to be dialed via an easier to remember or shorter word, such as a name or a word like "home", for example. Col. 6, lines 11-36.

While Steinbiss discloses use of a cache, it does not cure Furman's failings as a reference. Further, Furman reflects a set of choices which rather than making obvious the present claims teaches away therefrom.

Rejection of Claims 15-19

As noted above, claims 1 and 15 have now been similarly amended. Claim 15 now further defines the claimed method as comprising "employing voice recognition to analyze the invoice input; examining a directory to identify entries matching the voice input, constructing a list of recognition results that are candidates for matches to the voice input ranked by confidence; comparing the list of recognition results with a called party cache including entries a user is considered likely to call; and assigning an increased likelihood of matching to a list entry appearing in the called party cache." Ng does not teach this combination of steps, nor does it make it obvious.

Ng is entitled "Voice Label Processing Apparatus and Method". It describes an arrangement in a voice label processor 110 which receives a voice signal for a voice label such as "Call Mom", "Call Home" or the like. Col. 3, line 62-col. 4, line 24. An extracted feature pattern or patterns from the voice signal are compared with feature patterns stored in a voice

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label database 140. If the extracted feature pattern is determined to be the same as a stored feature pattern, within a predetermined tolerance, the voice label processor controller 200 determines that the voice label corresponding to the stored feature pattern is the voice label spoken by the calling party. Col. 4, lines 25-35. A destination identifier 120 simply retrieves destination device identifiers corresponding to the voice label codes from a user profile database 125. Col. 5, lines 1-17.

An exemplary diagram of a data structure of the user profile database 125 is shown in Ng's Fig. 4. This data structure includes a field 401 for the calling party identifier, a field 402 for the voice label codes that are useable by the calling party, and a field 403 for the destination device identifier. Col. 5, lines 27-39.

Thus, for example, if a calling party from number 555-664-4433, says the voice label "call mom" that label is received with the calling party identifier and converted into a predefined code, such as the "1" that appears in field 402 of Fig. 4. The number for code 1, 703-916-9957 is retrieved and the connection is made.

Contrary to the analysis at page 3 of the Official Action, Ng does not appear to take "into account the estimated likelihood that each entry will be called by a user." Further, it does not construct a list of recognition results that are candidates for matches to the voice input ranked by confidence, compare the list with a called party cache, and assign an increased likelihood of matching to a list entry appearing in the called party cache. Ng simply recognizes a defined list of voice labels such as "call home", and upon recognition thereof converts that label to a code

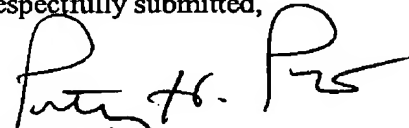
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which effectively points to the number to be called. As such, it neither anticipates, nor makes obvious the present claims.

Conclusion

All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,



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